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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/594,694	09/07/2007	Toshio Yoshihara	920_097	9473

25191 7590 06/10/2010

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EXAMINER	
ROBINSON, ELIZABETH A	
ART UNIT	PAPER NUMBER
1787	
MAIL DATE	DELIVERY MODE
06/10/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/594,694	YOSHIHARA ET AL.	
	Examiner	Art Unit	
	Elizabeth Robinson	1787	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01 March 2010*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-23* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-23* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date *1-20-2010*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-23 are currently pending.

Specification

The amendment filed March 1, 2010 is objected to under 35 U.S.C. 132(a) because it introduces new matter into the disclosure. 35 U.S.C. 132(a) states that no amendment shall introduce new matter into the disclosure of the invention. The added material which is not supported by the original disclosure is as follows: The pH value of the cleaner was added in [0118]. There was no documentation provided to show that this was the pH for this cleaner.

Applicant is required to cancel the new matter in the reply to this Office Action.

All other amendments to the specification filed March 1, 2010 are approved.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 21 and 23 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to

reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

Regarding claim 21, there does not appear to be support that the anti-fouling layer is an internal layer as would be required if it is the optional layer of claim 1. In the instant specification (Paragraph 96), the coating is provided to prevent the fouling of the outermost surface of the low-refractive index layer.

New claim 23 adds the limitation that the alkaline liquid composition has a pH value of not more than 12. As stated above, there was no documentation to show that the cleaner of the paragraph 118 has a pH of 12. Further, as presently claimed, the pH range would include all alkaline pH below 12. There is no support in the instant specification for pH values between 7 and 9 for the cleaner.

Claims 21- 23 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 21, it is unclear how the antifouling layer can be both an internal layer as required of the optional layers of claim 1 and be on the surface of the low refractive index layer remote from the light-transparent base. It appears that the claim should read that the antifouling layer is an additional layer provided on the low-refractive index layer remote from the light transparent base as it is shown in Example 3 of the instant specification. The Examiner is interpreting the claim in this manner.

Claim 22 contains the trademark/trade name BEMCOT®. Where a trademark or trade name is used in a claim as a limitation to identify or describe a particular material or product, the claim does not comply with the requirements of 35 U.S.C. 112, second paragraph. See *Ex parte Simpson*, 218 USPQ 1020 (Bd. App. 1982). The claim scope is uncertain since the trademark or trade name cannot be used properly to identify any particular material or product. A trademark or trade name is used to identify a source of goods, and not the goods themselves. Thus, a trademark or trade name does not identify or describe the goods associated with the trademark or trade name. In the present case, the trademark/trade name is used to identify/describe the cloth used for wiping the surface and, accordingly, the identification/description is indefinite. Claim 23 depends from claim 22 and thus, is also rendered indefinite.

Claim Rejections - 35 USC § 102

Claims 1, 3-12, 14-20, 22 and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Matsunaga et al. (WO 2004/017105) in view of evidence provided by the Chisso Silaplane literature.

Regarding claims 1 and 3, Matsunaga (Pages 8-9 and Figure 1) teaches an antireflective laminate comprising a transparent support 2 and a low refractive index layer 5 provided as the outermost surface layer of the laminate with other layers provided between the transparent support and the low refractive index layer. The low refractive index layer (Page 13) comprises a binder. The low refractive index layer (Page 28) further comprises silica fine particles preferably having a particle size from 30

to 100 nm. These particles (Page 29) are preferably hollow (contain voids). The silica fine particles (Page 31) can be treated with an alkoxy silane coupling agent to enhance the affinity for or binding property with the binder component. This hydrophobitizes the particles in the same manner as in the instant application.

Regarding claim 4, since the particles have been provided with a hydrophobic surface treatment they would not be fully wetted with water.

Regarding claim 5, the binder resin (Pages 13 and 14) for the low refractive index layer can be crosslinked (cured) with ionizing radiation.

Regarding claim 6, the constituent unit for imparting crosslinking reactivity can be a hydroxyl group (Page 15).

Regarding claim 7, the low refractive index layer can further comprise a silicon-based or fluorine-based stain-proofing agent (Pages 51-52).

Regarding claim 8, the fluorine-based compound can contain a perfluoroalkyl group (Pages 53 and 54).

Regarding claim 9, Matsunaga (Pages 52-53) teaches silicon-based compounds that meet the limitations of the instant claims. For example, the silicon-based compound can be Chisso FM-7725. As evidenced by the Chisso Silaplane product literature, this compound meets the limitations with Ra as a methyl group, Rb as (meth)acryloyl group substituted alkyl group, m=130 and n=0.

Regarding claims 7 and 10, Matsunaga (Pages 32-34) teaches that the low refractive index layer can also comprise an organosilane compound that meets the limitations of the instant claims.

Regarding claim 11, Matsunaga (Pages 13 and 14) teaches that the polymer from which the low refractive index layer is formed has a contact angle to water from 90 to 120°.

Regarding claim 12, the low refractive index layer has a refractive index of 1.20 to 1.49, preferably 1.30 to 1.44 (Page 13).

Regarding claims 14, 16 and 18, Matsunaga (Pages 8-9 and Figure 1) teaches that the laminate can also comprise hardcoat layer 3 and antiglare (anti-dazzling) hardcoat layer 4 that have mat particles 6 dispersed therein (anti-dazzling agent).

Regarding claim 15, the bulk refractive index of the antiglare hardcoat layer is preferable from 1.50 to 1.80 and this refractive index is attained by appropriately selecting the kind and amount ratio of binder and inorganic filler (Page 65).

Regarding claims 17, 19 and 20, Matsunaga (Pages 8-9 and Figure 1) teaches that the laminate can also comprise high refractive index layer 8. The high refractive index layer (Pages 106 and 107) can comprise an antistatic agent, has a refractive index that is preferably between 1.80 and 2.00, and preferably is from 60 to 150 nm (0.06 to 0.15 microns) thick.

Regarding claims 22 and 23, the low refractive index layer of Matsunaga comprises the same type of fine particles, treated in the same manner and can have the same type of ionizing radiation curable binder (Page 13-26) as in the instant application. Thus, the behavior of the antireflective laminate of Matsunaga to wiping with an alkaline liquid composition would inherently be the same as that of the instant application.

Claim Rejections - 35 USC § 103

Claims 1-12 and 14-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nakamura et al. (US 2003/0202137) in view of Matsunaga et al. (WO 2004/017105).

Regarding claims 1 and 3, Nakamura (Paragraphs 116-125) teaches an antireflection film comprising a transparent support (3) and low refractive index layer (2) that is provided on the outermost surface of the high refractive index layer (1). The low refractive index layer comprises fine particles (Paragraphs 192-196) such as silica particles having an average particle size of 0.5 to 200 nm, most preferably 5 to 40 nm, and a binder (Paragraphs 209-212). The fine particles are subjected to a surface treatment by a coupling agent (Paragraphs 213-232). This coupling agent can be the same as those the instant application and thus, inherently would provide the same hydrophobitizing of the particles. It is desired that the low refractive index layer have a refractive index lower than the refractive index of the polymer and particle material (Paragraphs 205 and 206).

Nakamura does not teach the silica particles having a void.

Matsunaga (Pages 29 and 30) teaches that hollow silica particles have an effective refractive index of 1.17 to 1.40. This is lower than the refractive index of solid silica particles.

It would be obvious to one of ordinary skill in the art to use the hollow silica particles as in Matsunaga, as the silica of particles of Nakamura, in order to ensure that the low refractive index layer has a sufficiently low refractive index.

Regarding claim 2, Nakamura (Paragraph 265 and Figure 5c) teaches that the low-refractive index layer can have an overcoat layer that covers the unevenness of the surface of the low-refractive index layer and provides a continuous layer (renders the outermost surface smooth). The polymer of the overcoat layer is taught in Paragraphs 271-273. These polymers can also be present as binder in the low refractive index layer (Paragraphs 484-489) and thus, the laminate can have a layer comprising the binder and particles and a layer formed of said binder alone.

Regarding claim 4, since the particles have been provided with a hydrophobic surface treatment they would not be fully wetted with water.

Regarding claims 5 and 6, the binder resin of the low refractive layer is taught in Paragraphs 234-235 and includes ionizing radiation curing resins containing hydroxyl functional groups.

Regarding claim 7, Nakamura (Paragraphs 484-485) teaches that the low refractive index layer can have a fluorine or silicon series containing compound.

Regarding claim 8, Nakamura (Paragraph 488) teaches fluorocompounds that meet the limitations of the instant claim.

Regarding claim 9, Nakamura (Paragraph 498) teaches that a coating layer can be present in the voids of the low refractive index at less than 70% by volume. It is preferred to increase the molecular weight of the coating layer, in order to lower the volume percentage of the coating in the voids. The lower volume percentage is preferred, in order to preserve the refractive index of the low refractive index layer. This lubricating coating layer can be formed from a polyorganosiloxane (Paragraph 492).

Nakamura does not explicitly teach the values for m and n.

It would be obvious to one of ordinary skill in the art to choose the molecular weight (thus the values of m and n), in order to obtain a desired refractive index for the low refractive index layer, while still providing an external lubrication layer.

Regarding claim 10, Nakamura (Paragraph 498) teaches that a coating layer can be present in the voids of the low refractive index layer and can be a fluorine-containing silane (Paragraph 273) that meets the limitations of the instant claim.

Regarding claim 11, Nakamura (Paragraph 330) teaches that the contact angle with water of the surface of the side having the low-refractive index layer is preferably 90 degrees or more.

Regarding claim 12, Nakamura (Paragraph 243) teaches that the low-refractive index layer preferably has a refractive index of 1.30 to 1.55. This range overlaps the range of the instant claim.

Regarding claim 14, Nakamura (Paragraph 458) teaches that there can be a hardcoat layer between the base material and the low refractive index layer.

Regarding claim 15, Nakamura (Paragraphs 253 and 257) teaches the polymers and fillers used to form the hard coat layer. The filler is added to the hard coat layer to adjust the refractive index and hardness of the layer (Paragraph 475).

Nakamura does not explicitly teach the refractive index of the hardcoat layer.

However, due to the refractive indices of the polymers and fillers, the materials of the hardcoat layer should provide coatings that meet the refractive index limitations of the instant claim or it would be obvious to one of ordinary skill in the art to vary the filler

and filler loading to obtain a desired refractive index and hardness for the hardcoat layer.

Regarding claims 16 and 18, Nakamura (Paragraph 501) teaches that the hardcoat layer can have anti-glare (anti-dazzling) properties.

Regarding claim 17, Nakamura (Paragraph 284) teaches that an antistatic layer can be provided on the transparent support.

Regarding claim 19, Nakamura (Paragraph 125 and Figure 1c) teaches that there can also be a middle-refractive index layer between the transparent substrate and the low-refractive index layer. The refractive index of the middle-refractive index layer is preferably 1.65 to 1.85 (Paragraph 187) and the layer has a thickness of 5-200 nm (0.005 to 0.2 microns) (Paragraph 189).

Regarding claim 20, Nakamura (Paragraph 280) teaches that an antistatic agent can be added to any of the layers or coating solutions of the anti-reflection film.

Regarding claim 21, Nakamura (Paragraph 125 and Figure 1 (c)) teaches that the laminate can have an overcoat layer provided on the low refractive index layer in the side remote from the base layer. The overcoat layer can be a stain-proofing layer (Paragraphs 490-491).

Regarding claims 22 and 23, Nakamura (Paragraphs 271-273) teaches that the overcoat layer can be formed from a crosslinked fluorine-containing polymer and can form a continuous layer on the low-refractive index layer (Paragraph 265). These materials include some of the same compounds that can be used as the binder of the instant application and thus, the behavior of the antireflective laminate of Nakamura to

wiping with water or an alkaline liquid composition would inherently be the same as that of the instant application.

Claims 1, 3-7 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Yoshihara et al. (JP 2002-079600) in view of Matsunaga et al. (WO 2004/017105). A formal English translation of JP 2002-079600 is provided with this Office Action.

Regarding claims 1 and 3, Yoshihara (Paragraph 6) teaches a low-refractive index layer coated on a glass or plastic substrate. The substrate is transparent (Paragraph 1). The composition is an anti-reflection laminate (abstract). The low-refractive index layer (Paragraph 7) comprises an ultrafine particle whose mean diameter is 5-100 nm and an acrylic compound (binder). The particles (Paragraph 22) can be treated with an organic silicon compound of formula A. The organic silicon compound A is taught in Paragraph 21 and has the form of a silane coupling agent. This coupling agent can be the same as those the instant application and thus, inherently would provide the same hydrophobitizing of the particles. It is desired that the low refractive index layer have a refractive index lower than the refractive index of the acrylic and particle material (Paragraph 14).

Yoshihara does not teach the silica particles having a void.

Matsunaga (Pages 29 and 30) teaches that hollow silica particles have an effective refractive index of 1.17 to 1.40. This is lower than the 1.45 refractive index of solid silica particles.

It would be obvious to one of ordinary skill in the art to use the hollow silica particles as in Matsunaga, as the silica of particles of Yoshihara, in order to ensure that the low refractive index layer has a sufficiently low refractive index.

Regarding claim 4, since the particles have been provided with a hydrophobic surface treatment they would not be fully wetted with water.

Regarding claims 5 and 6, the binder resin of the low refractive layer is taught in Paragraph 20 and includes ionizing radiation curing resins containing hydroxyl functional groups.

Regarding claim 7, Yoshihara (Paragraph 27) teaches that the low-refractive index layer can also comprise a fluorine or silicon compound.

Regarding claim 12, the low refractive index layer has a refractive index of 1.45 or less (Paragraph 24).

Regarding claim 13, Yoshihara (Paragraph 16) teaches that the low-refractive index layer has a ten point mean roughness of 100 nm or less and an arithmetic mean roughness of 2 to 10 nm.

Regarding claim 14, the low-refractive index layer can further be laminated with a hardcoat layer (Paragraph 29).

Double Patenting

Claims 1, 3-5, 7-10, 12 and 14-21 are provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1, 11, 13-15 and 17-23 of copending Application No. 10/569,363. Although

the conflicting claims are not identical, they are not patentably distinct from each other because both claim an antireflective laminate comprising a light transparent base material with a low refractive index layer provided on the base layer. The low refractive index layers both comprise a binder and void containing fine particles. The fine particles are coated with a coupling agent that would hydrophobitize the particles. While claim 1 of 10/569,363 does not explicitly state the average particle size of the particles, Applicants' attention is drawn to MPEP 804 where it is disclosed that "the specification can always be used as a dictionary to learn the meaning of a term in a patent claim." *In re Boylan*, 392 F.2d 1017, 157 USPQ 370 (CCPA 1968). Further, those portions of the specification which provide support for the patent claims may also be examined and considered when addressing the issue of whether a claim in an application defines an obvious variation of an invention claimed in the patent. (underlining added by examiner for emphasis) *In re Vogel*, 422 F.2d 438,164 USPQ 619,622 (CCPA 1970).

Consistent with the above underlined portion of the MPEP citation, attention is drawn to specification Paragraph 49 of 10/569,363 which discloses that the silica fine particles have an average diameter of 5 to 100 nm. Therefore, it would have been obvious to one of ordinary skill in the art to use these particle sizes of the silica fine particles and thereby arrive at the present invention.

Claims 1, 3-5, 7-10, 12 and 14-21 are directed to an invention not patentably distinct from claims 1, 11, 13-15 and 17-23 of commonly assigned 10/569,363.

Specifically, although the conflicting claims are not identical, they are not patentably distinct for the reasons set forth above.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP Chapter 2300). Commonly assigned 10/569,363, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(e), (f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee can, under 35 U.S.C. 103(c) and 37 CFR 1.78(c), either show that the conflicting inventions were commonly owned at the time the invention in this application was made, or name the prior inventor of the conflicting subject matter.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications pending on or after December 10, 2004.

This is a provisional obviousness-type double patenting rejection because the conflicting claims have not in fact been patented.

Response to Arguments

Due to amendments to the claims requiring the fine particles to contain voids, the Examiner has provided new grounds of rejection. Applicant's arguments filed March 1,

2010 regarding the references not containing void-containing fine particles have been considered but are moot in view of the new ground(s) of rejection.

Due to amendments to the claims and specification, the specification objections, 35 U.S.C. 112, 102 and 103 rejections from the September 1, 2009 Office Action are withdrawn.

Since the particles of copending application 10/569,363 are claimed as void-containing, the nonstatutory obviousness-type double patenting rejection from the September 1, 2009 Office Action is maintained.

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Elizabeth Robinson whose telephone number is (571)272-7129. The examiner can normally be reached on Monday- Friday 8 AM to 4:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/E. R./
Elizabeth Robinson
Examiner, Art Unit 1787

June 2, 2010

/Callie E. Shosho/
Supervisory Patent Examiner, Art Unit 1787